

workers (Wittrock 1877, Heering 1921, Patel 1971). Terminal akinetes vary from 55-84 μ in diameter and 140-259 μ in length and agree with Patel (1971) but differ from Wittrock

(1877) where they were rather greater.

Thanks are due to Prof. Dr. A. K. M. Nurul Islam for his valuable comments on the identification of the species.

DEPARTMENT OF MARINE BIOLOGY,
UNIVERSITY OF CHITTAGONG,
CHITTAGONG, BANGLADESH,
April 4, 1979.

A. M. ABDUS SALAM
YUSUF SHARIF A. KHAN

REFERENCES

*HEERING, W. (1921): Die Susswasser Flora, 7, Chlorophyceae. 4: 3-61.

HOEK, C. V. (1959): Caribbean Fresh and Brackish water Chlorophyta. *Blumea*. 9(2): 590-625.

PATEL, R. J. (1971): Cytotaxonomical studies on *Pithophora kewensis* Wittrock. *Phykos*. 10(1&2):

18-23.

WITTROCK, B. (1877): On the development and systematic arrangement of the *Pithophoraceae*. *Nova Acta Regiae Soc. Sci., Upsal.* 3, series I, Volumen extra: 1-80.

* Not seen in original.

36. DISTRIBUTIONAL NOTES ON CERTAIN RECENTLY DESCRIBED TAXA

Borreria eradii Ravi, *Heliotropium keralense* Sivarajan & Manilal, and *Phyllanthus kozhikodianus* Sivarajan & Manilal, are but a few of the taxa discovered and described recently from S. India. A perusal of the material of the concerned genera at the Central National Herbarium, Howrah, and those at the herbarium of Botanical Survey of India, Shillong, revealed interesting information regarding their extended distribution in India and the data are presented here.

Borreria eradii Ravi (J. Bombay nat. Hist. Soc. 66: 539-541. 1970) has been invariably (except in the case of a single sheet, Vivekanandan 46570, in CAL) identified as *Borreria articularis* (*Spermacoce hispida*). Though closely resembling, these two species can well be distinguished by the prominently winged stems, conspicuously veined leaves, short campanulate flowers and the glandular papillae on the calyx in the former.

This particular species is a common weed in the sandy loam or laterite soils, mostly on the hill slopes in Kerala, and can at once be recognised by its yellowish green colour. Interestingly enough, this species is represented in these herbaria from various eastern States, like Assam, Meghalaya, Mizoram and W. Bengal and even from the neighbouring countries like Bhutan and Nepal. On Gauhati-Shillong roadside, it is a quite common weed.

Specimens examined:

Assam: Panigrahi 1878, 18722 & 9246. Sivarajan 28637.

Meghalaya: Patnaik 10963 (Khasi & Jaintia Hills).

Mizoram: Dutta 34103. *W. Bengal:* Thothathri 9436 (Kalimpong), Mukherjee 6211 'Sukna'. *Sikkim:* Majumdar 169 (Gangtok) Sengupta 296 (Rungpo). *Kerala:* Vivekanandan 46570, Sivarajan 464. *Bhutan:* Thothathri 10323, Subba Rao 136, Coll: 353, Sengupta

863, Mukherjee 6181. *Nepal*: Hara *et al.* 1298.

Heliotropium keralense Sivarajan & Manilal
Heliotropium indicum as recognised in the past, has been a complex with at least two different taxa, more or less similar in vegetative condition. The one having pink flowers with the corolla tube much longer than the calyx and covered with short pubescent hairs on the outside is *H. indicum*. Sivarajan and Manilal (Jour. Indian Bot. Soc. 51: 348-350. 1972) separated the white flowered taxon with corolla tube almost as long as the calyx and covered with long villous hairs into a new species namely *H. keralense*. However, there seems to be no good character to distinguish these species in their vegetative phase.

This species is originally described from Kerala, where it is a very common weed in the wet lowlands, often growing in association with *H. indicum* Linn. But it is now found to have a much wider distribution.

Specimens examined:

Assam: A. S. Rao 39038 (Kamrup), Verma 46257 (Lakhimpur), Nath 13433 (Tangla), R. S. Rao 9827 (Kaziranga), Panigrahi 9336 (Gauhati).

Andamans: Thothathri 9189. *Karnataka*: Barber 6807.

Kerala: Calder 1573, Sivarajan 191 (type), 997.

Tamil Nadu: Wight 2065, Subramaniam 8139, 3459 (Madurai), Sebastine 801 (Coimbatore).

Orissa: G. V. Subba Rao 30198.

Phyllanthus kozhikodanus Sivarajan & Manilal, (J. Indian bot. Soc. 56: 165-168. 1977), is however, the most confused of these.

DEPT. OF BOTANY,
UNIVERSITY OF CALICUT,
CALICUT, KERALA.

BOTANICAL SURVEY OF INDIA,
SHILLONG,
February 14, 1979.

This species, originally reported from Kerala, is closely related to *P. rheedii* Wt., from which it can be distinguished by its rather unbranched habit, different disc glands and sepals; and to *P. rotundifolius* Klein., from which it could be made out by its leaves, pedicelled male flowers, staminal filaments which are free above, and larger capsules. The identity of the specimens of this species at 'CAL' is confused with other species and kept accordingly. Puri 4306, from Maharashtra, is labelled as *P. niruri* Linn., but can be distinguished by its equilateral leafbases and the presence of six sepals which are 1-veined, in both male and female flowers. Wadhwa 5462, identified to be *P. fraternus* Webster, has two different taxa mixed up, of which one is definitely *P. kozhikodanus*, since this possesses spreading, deeply bifid styles unlike *P. fraternus*. Interestingly enough, one of us (V.V.S.) could collect it from the grassy slopes alongside Gauhati-Shillong Road.

Specimens examined:

Andhra Pradesh: Subramanian 6950 (Chittoor), Balakrishnan 10804 (Visakhapatnam), *Assam*: Sivarajan 28701 (Gauhati). *Kerala*: Sivarajan 1762 (type).

Maharashtra: Puri 4306 (Khandesh), Pataskar 101445.

Rajasthan: Wadhwa 5469 (Jhalawar), Wadhwa 5462, in part.

Tamil Nadu: Sebastin 12616 (Madurai).

ACKNOWLEDGEMENTS

Thanks are due to the authorities of Botanical Survey of India, Howrah, for the facilities.

V. V. SIVARAJAN

J. JOSEPH